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Bacillary White Diarrhœa: Results of Testing a Breeding Flock.

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In November, 1926, poultry farmer A. contracted to buy from B. several thousand eggs for hatching. Prior to the delivery of this large consignment, 150 eggs were incubated and several chicks died from B.W.D. (bacillus isolated and identified by laboratory tests). Incubation was carried out in the usual way, a Mammoth incubator being used, and the following is the result of the hatchings and the mortality from B.W.D. up to the 28th day, after which no records were kept.

Lot of chicks.	No. chicks hatched.	% hatched.	% died.
A.	1,263	70	42
B.	340	69	63
C.	900	69	59
D.	500	65	57
E.	173	65	71
F.	100	65	29
G.	1,466	67	18
H.	605	58	28
I.	2,518	75	36

B.W.D. was confirmed by laboratory tests on several chicks in each lot. The percentage death rate includes chicks killed by farmer A. who did not wait till chicks actually died but killed all ailing birds whenever noticed. B.W.D. did not exist on farm A. previous to the 1926 hatching. On two occasions all unhatched eggs were sent to the laboratory for examination. Lot 1 consisted of 130 eggs, of which 59 were non-fertile and 71 contained dead chicks in varying stages of development. Cultures were made from the contents of all eggs, and from 25 *B. pullorum* was isolated. Lot 2 consisted of 143 eggs, of which 68 were non-fertile and 75 contained dead chicks. Cultures of *B. pullorum* were isolated from the contents of 30 eggs.

On farm B. intradermic (I.D.) and agglutination (Agg.) tests were carried out on 645 hens which had produced the eggs hatched by farmer A. The results were as follows:

I.D. + Agg. +	I.D. — Agg. —	I.D. + Agg. —	I.D. — Agg. +
82	402	152	9

The hens were now divided into three groups, (a) those reacting to both tests + those reacting to agglutination test alone (91 birds), (b) those negative to both tests (402 birds), (c) those reacting to intradermic but not to agglutination tests (152 birds).

For the remainder of the breeding season, eggs laid by negative reacting hens (group b) were used: no B.W.D. resulted. Eighty eggs laid by hens of group (c) were incubated; no B.W.D. was found. Twelve hens from group (a), *i.e.*, reactors to both tests, were sent to the laboratory. They were mated with a non-agglutinator cockerel and their eggs were collected and hatched out under hens. The following results were got:—

Eggs.	Chicks hatched.	Chicks died B.W.D.
11	3	1
11	7	2
13	10	2
13	9	1
13	6	2
13	5	2
74	40	10

One hen died. The ovary showed typical B.W.D. lesions and *B. pullorum* was cultivated from them.

Discussion.

This work confirms the view held by American workers and recorded in the report of the Proceedings of the United States Livestock Sanitary Association (1), that the agglutination test is valuable as a means of removing *B. pullorum* carrier fowls from a breeding flock.

We regard complete agglutination at a serum titre of 1 in 40 as a positive reaction. Whether 1 in 10, as used in some American laboratories, or 1 in 100, is the best dilution to use in large scale eradication work does not appear yet to be fully settled.

It is probable that the intradermic method of testing may also be useful. Results of testing the above flock would indicate that the intradermic method of testing condemns a greater percentage of hens than the agglutination method. Up to the present we have not been able to carry out *post-mortem* examinations on hens reacting only to the intradermic test: this will be done when opportunities are found.

From the present state of our knowledge, we would advise poultry farmers who have B.W.D. in their flocks to carry out agglutination tests and remove those reacting positively. It is advisable to test at least twice every year till two consecutive tests show no positive reactors before concluding that a flock is "clean."

Summary and Conclusions.

(1) A flock of hens, of which about 11% reacted to agglutination and intradermic tests, produced eggs from which about 40% of the chicks hatched died of B.W.D.

(2) From about 20% of the unhatched eggs cultures of *B. pullorum* were grown.

(3) Hens which were non-reactors to the agglutination and intradermic tests produced healthy chicks.

(4) Hens reacting to both tests produced chicks of which 20% died of B.W.D.

Reference.—Journ. Amer. Vet. Med. Assocn. Vol. LXX. March, 1927.

"Introcid" in Veterinary Practice.

By R. L. Higgins, M.R.C.V.S.

I should like to bring to the notice of those of my colleagues who may not have already heard of it a preparation which has, according to the testimony of eminent scientists, been used in Germany with great success both in human and veterinary medicine.

This preparation—introcid—is a mixture of iodine and cerium in combination with neutral salts. The solution is in itself sterile. The iodine serves to activate the cerium, which belongs to those rare earth metals that are capable of preventing tuberculous infection in guinea-pigs.

Expressed in the most general terms, the effect of introcid is to stimulate granulation in, and to heal, inflamed or pathologically altered tissue. It has also a strong anti-parasitic action. While it tends to regularise and regenerate diseased cells, introcid, if given in suitable quantities, has no injurious effect on healthy tissue. Manifestations of iodism have not been observed after its use. In spite of frequently repeated injections there is no danger of accumulation. The innocuous nature of the mixture even in large doses allows the treatment with introcid to be protracted as long as is necessary.

It is particularly used in malignant tumours. Lewin, of the Institute for Cancer Research in Berlin, considers introcid an important advance in the chemotherapy of growths of various etiology and structure.

It is further used in all toxic infectious diseases and in grave septic processes. Favourable results from its treatment in puerperal fever are reported from the gynæcological portion of the Rudolf Virchow Hospital in Berlin, where it was found superior to the preparations hitherto in use, effecting in almost every case an improvement in the general condition, soothing of pain and lowering of temperature.

The list of scientists who recommend the use of introcid in veterinary practice is long and distinguished. From the nature of its general properties, we may gather for what varied diseases introcid may be used. Septic abortion, metritis, puerperal fever, retentio secundinarum, oophoritis, salpingitis, tears and wounds of the vaginal mucous membrane, inflammations of the udder, of the intestines, of the peritoneum, of the spermatic cord, endocarditis, lymphangitis, actinomycosis, botryomycosis, icterus, otitis, keratitis, injuries of the tendon sheaths and joints, strangles, purpura hæmorrhagica, pneumonia, cerebral disturbances, and pernicious anæmia of the horse, erysipelas, urticaria, and plague of swine, foot-rot in sheep, distemper and Stuttgart disease in dogs, distemper in cats, diphtheria in fowls—cases of all these diseases have benefited by the introcid treatment. Further, as introcid is considered by some scientists to be the ideal preventive against infection, it has an extensive field for use in surgery in castrations, for instance, and in removal of the placenta, embryotomy, dystocia, prolapse of the uterus and vagina.

Introcid is best administered by the intravenous route. Intramuscular injections are usually supported without reaction, and are recommended as specially efficacious when given in the intervals between intravenous injections. Subcutaneous administration is not advised.

Introcid ointment is used for acariasis, also for ulcerating tumours; it stops hæmorrhage and reacts against the intoxication of the organism through bacterial poisoning or through the products of the disintegration of albumen.

Several derivatives of introcid exist. Colloidal introcid solution (P. 156) may be used for intramuscular injections. Introcid is used in a compound with arsenic (P. 143) for actinomycosis and malignant tumours. This arsenic derivative is preferred also in the treatment of pernicious anæmia of the horse.

The striking claims which have been made for introcid by reliable authorities make it well worth our consideration. It will be observed, first, that it is recommended as superior to other antiseptic preparations. On this ground alone we may derive from it an increase in efficiency. But obviously what interests us especially is that excellent results are claimed from its use in diseases for which the treatment hitherto applied is generally regarded as unsatisfactory. It is in such cases that introcid merits our particular investigation. Brilliant results are reported, for instance, from the treatment of malignant tumours in veterinary practice with the compound of introcid with arsenic (P. 143). Introcid has produced good results in metritis and septicæmia. It is said to have a particularly favourable action on distemper in the early stages. In combination with erysipelas-serum it is claimed as being almost a specific for swine erysipelas, and it has saved animals suffering from swine plague which had been given up as hopeless.

Notanda.

Krijgsman found that in the treatment of coccidiosis of the rabbit atozyl was of little value, but that the use of creolin in conjunction with thorough prophylactic measures was beneficial. (*Centralb. f. Bakt.*, Dec., 1926.)

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The parasite of sleeping sickness was discovered by Dutton and Ford in 1903, whilst the transmission by tsetse fly was shown by Bruce. In the same year Fischer and V. Mehring introduced veronal.

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The discovery by William Harvey (1578-1657), of Folkestone, published 1628, that the heart is the centre of the circulation of the blood, and that all blood must return to the heart, at first received scant notice and was even directly opposed by Galen's adherents, but further investigation soon made truth victorious.

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According to the experiments of I. Hiles, an alcoholic extract of scolices is a more potent antigen than hydatid fluids. Saline in the alcohol used for extraction appeared to decrease the potency of the antigen. (*Journal Helminth.*, Nov., 1926.)

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In the *Berliner Tierärzt. Woch.* (Feb., 1927) Kunike gave the details of some experiments which showed that flies are not specific hosts for the virus of foot-and-mouth disease, and that as mechanical carriers of the infection their possible rôle is strictly limited. [See Abstract in this issue.—Ed.]. H. K.

Infectious Canine Meningo-Encephalitis (Frights Disease).*

By J. C. WRIGHT, Atlanta, Ga.

[We publish this paper as indicative of American opinion of the condition frequently reported upon in our columns of late under the heading "So-called Hysteria in Dogs." —Ed., *Veterinary Record.*]

Frights disease or running fits is an acute, infectious and, we think, contagious disease of the central nervous system. It is characterised by deranged consciousness, disturbances of the intestinal tract and, in many cases, disturbances of other functional organs. In so far as we have been able to determine, the disease appeared first in the southern states. Its occurrence is widespread over the southern states and is rapidly spreading northward.

HISTORY.

I first noticed this disease in this locality six years ago, in a prison camp, northwest of Atlanta, Georgia, about fifteen miles away. The first subjects infected were a pack of bloodhounds. One of the prison guards shot one of these dogs, thinking it was rabid. The other two dogs ran away or they would have been killed at the same time. After the fits subsided, they returned to the camp, apparently normal. These dogs were isolated on their return to camp and the owner came to me for information concerning them, giving me the symptoms. From the symptoms given, I diagnosed the dogs as not being rabid. I instructed the owner to bring the dogs to my hospital. Upon examination, I found the dogs apparently normal. The dogs were isolated, during which time they had a number of fits.

The symptoms were treated successfully and the dogs were returned home in ten days cured and, to my knowledge, had no recurrence of the disease. From this time on, the number of cases has increased rapidly, both in this and other localities. To-day it is prevalent in all the southern states and in many northern, eastern and western states. Many good dogs were killed, the owners thinking them rabid. Each year, the virulence of the disease has become stronger until now it is fatal in approximately 25 per cent. of the cases, where the dogs do not reach the semi-comatose or comatose stage or the cases do not become complicated with distemper, pneumonia or hæmorrhagic enteritis. Seventy-five per cent. are fatal where complications of hæmorrhagic enteritis or distemper appear. Practically 100 per cent. are fatal where the dogs enter the semi-comatose or comatose state.

SYMPTOMS.

A languid condition is one of the first symptoms noticed. In some cases, one of the first symptoms noticed is a deranged appetite. Clinical symptoms are as follows: Temperature, 102.5 to 104.5° F. Respiration altered, depending upon the duration of the disease. Pulse very full in the first stages, quickened and, in some cases, intermittent. In the last stages of the disease the pulse is generally small and intermittent. The membrana nictitans has a bluish tinge. The conjunctivæ are generally injected. The membranes of the mouth and tongue are pale at the outset, turning to a bluish tinge in the last stages. The hair-coat is generally rough and the skin dry. The eyes have a starey, glassy look, and after the animal has a fit his face betrays anxiousness.

As the disease progresses, the eyes recede slightly, due to the wasting away of the orbital pad and facial muscles. At this stage, the eyes generally become catarrhal. At the onset of the disease the dog has a variable appetite, often eating voraciously, at other times refusing food. After the dog is once down his appetite is completely gone. Animals in this state cannot in many cases retain nourishment by forced feeding. In the milder form of fits, our attention is called to the following symptoms: For no apparent reason the dog becomes frightened, starts running around—clockwise and counter-clockwise—if in close quarters. If at large the dog runs off and seeks dark, out-of-the-way places to hide; others exhaust themselves by running, barking, yelping and howling. Amaurosis is apparent as the animals run into, over and against objects. In the milder form you get from one to twenty of these spells per day. They may skip several days, decreasing in severity as the dogs tend toward recovery. If the animal turns for the worse, the fits increase, both in number and in severity, until the semi-comatose stage is reached. After the animal reaches this stage, he has convulsions almost continuously, growing weaker after each convulsion and often yelping continuously.

In lapsing into a convulsion, the dog's eyes roll back beneath the upper lids and the labial muscles will be tensely drawn, showing the teeth as though snarling. The head is generally drawn backwards. The animal champs his jaws frequently, frothy saliva exudes from between his lips; his legs work as if running; involuntary urination and defæcation often take place during this time. After the dog is relaxed from the convulsion, he often attempts to get up and run but falls exhausted, breathing fast and deep. The pulse at this time is irregular, often running as high as 250 per minute. During this stage the dog rapidly becomes emaciated. Then convulsions often take place in rapid succession and are ushered in by noises, such as rattling of pans, loud speaking or talking or touching the animal. After the dog reaches this stage he does not live over three to five days. In this stage diarrhœa is very prominent, the fæcal matter is fetid, gaseous and mixed with blood. We might add that when the dog does not go into the semi-comatose or comatose stage but continues to run and bark with these fits, each spell seems to become lighter in severity and the dog generally recovers in from ten days to three weeks.

We spoke of amaurosis being present in the dogs. This condition lasts only during and directly following the first stage, for only a short period of time. A collie pup entered my hospital with a history of frights disease. The dog was blind at the time he entered the hospital. The owner was asked if the pup had always been blind. She replied that the pup went blind shortly after he took this disease. On examination of the eye, no external symptoms were seen. The cornea was normal; the lens did not show any malformation or blemishes; the fluid in the anterior chamber appeared normal; the retinæ also appeared normal. The pupils were dilated and no atropin

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had to be used in an examination of the deeper structure of the eyes. The pup's expression was blank. He found his way around by smell and by feel. He continued to have fits until the owner killed him. On autopsy, the typical symptoms were found. On examining the optic structures it was found that the optic nerves were atrophied just anterior to where they come off the optic chiasm.

Other symptoms of the disease that we noted were purulent dermatitis and ulcerated keratitis. The purulent dermatitis is caused by *Staphylococcus aureus*. We did not try to get a culture from the ulcerated eyes. Two cases of purulent dermatitis were noted. One animal died but the other made a complete recovery. In the cases where ulcerated keratitis followed the catarrhal inflammation of the eyes and where the purulent dermatitis was at its height, the eyes ulcerated. In each case the cornea was eaten through except for Descemet's membrane, which protruded, causing staphyloma. These were operated on without success, as the fluid in the anterior chamber of the eye was affected. In the period following the convalescent stage, we have had occasion to note secondary anæmia in nine cases. In these cases the animals were very weak, mucous membranes very pale, and the animals' appetites very poor for the most part. In two cases the dogs were completely down with the disease. Under treatment they responded after a long period of time.

One peculiar case which was singular in type came under our observation. The dog entered our hospital with fits and was recovering fast when a relapse set in. The animal's temperature would go up to 105.6° F. one day, and down to 102.3° F. the following day. The animal died. From the clinical symptoms noted, the immediate cause of death was pneumonia. The pathological findings of this case will be discussed later. In this case the pulse would vary according to the temperature. The animal would take food only at intervals of days. One case of which we spoke before that had the purulent dermatitis, showed permanent derangement of equilibrium before pneumonia prostrated him. We are unable to determine whether the cause lies in the central nervous system or in the semi-circular canals. The animal, while up, would walk or sidle to the left, with the legs bracing the body as on a saw-horse. He would prop himself against the walls and rotate to the right. The head was drawn to the left. After he went into prostration, the head was still drawn to the left. The animal also had incontinence of urine. Autopsy showed occlusion of the semi-circular canals; the fluid was solid or gelatinous. This condition of the canals seems to be responsible for the loss of equilibrium.

Treatment.

The treatment of the disease has been purely symptomatic; phytolacca and somnos for quieting; luminol and paralga as sedatives; calcidin; triple arsenates with nuclein; fraisses hypodermatically; ice-pack on the head in extreme cases; fibrogen hypodermatically to check diarrhœa and hæmorrhages; bismuth and salol and weak solutions of silver nitrate as a stomach lavage or in tablet form. We think that a vaccine or serum can be made both as a preventive and a cure as soon as enough research work has been done.

Owing to the fact that mercurochrome has come to universal use in the medical profession, especially in the treatment of infants, we considered it in the treatment of this disease. We know that mercurochrome is very beneficial in reducing temperatures and bringing on an early crisis, which is most gratifying in results. With this knowledge at hand we attempted it in the treatment of this malady with very satisfactory results. We use this drug, ¼ to ½ of 1 per cent. solution intravenously in dosages of from 3 to 10 cc., according to the size and weight of the subject being treated. On dogs from 40 to 60 pounds, 10 cc. were given. In this treatment the jugular vein was utilised, it being the largest vein and the safest. Ordinary aseptic precautions were used. We were exceedingly careful not to get the medicine outside of the vein, as a sterile abscess would result. Difficulty was experienced in using the smaller veins, as the mercurochrome would contract the walls of the veins when injected and the veins would not take it up rapidly. Results were gratifying, as in all cases the temperatures were lowered in from 12 to 24 hours. One to three doses were generally given, three to five days apart. In one case it required only one dose of 6 cc. to allay all fits. No other treatment except several doses of somnos, to allay convulsions, and metagen compound were used. We have used this treatment on twenty-one cases and are very well pleased with results. It is worth your trial. We always recommend the simultaneous distemper prophylaxis to avoid distemper complications.

Diet.

In the milder form regular table diet is advisable, such as meat, bread and vegetables mixed together. In severe cases we give predigested beef, raw eggs, milk, broth and sometimes liquid peptonoids; also barley meal in boiled water.

Pathology.

Twenty-two autopsies were made of this disease.

External Examination.—Fourteen of the animals showed great emaciation; the rest were in fair condition. In all of the cases the eyes were sunken, the facial muscles atrophied, and the conjunctiva catarrhal and hyperæmic. The buccal membranes in all cases were bluish in appearance, the buccal mucosa of nine showed lacerations; the tongues in those cases also were lacerated.

Internal Examination.—All of the subjects showed normal positions of the organs except in two cases. These two showed a disarrangement of the intestines, the spleen being farther posterior than normal. This condition can probably be explained by powerful contractions of the intestines or by the dog throwing himself about while in a fit. The abdominal peritoneum in all of the cases except eight was shiny and transparent. Eight showed subperitoneal hæmorrhages and hyperæmia. These eight also showed about 40 cc. of sanguineous yellow fluid in the abdominal cavity.

Kidneys.—In all of the cases, the kidneys were normal in size. The capsules were shiny and transparent. They peeled easily, showing an acute inflammation. In chronic inflammation the capsules would be adherent, due to an increase in interstitial connective tissue. On section all of the kidneys bulged. The cortex was darker than normal. Lines of darker and lighter areas were noticed in the cortex. This condition indicated hyperæmia of the vessels in the interstitial connective tissue and degeneration

of the epithelium of the kidney tubules. The periphery of the medulla was pale. The calyx and hilus contained shiny viscid material that was catarrhal in nature. In three cases blood was found in the hilus. On pressing the kidney tissue between the finger and thumb the tissue was soft, indicating an acute process.

Adrenals.—In all cases but three the adrenals were normal. These three were slightly enlarged, bulged on section, and were œdematous.

Intestines.—In all cases the rectum and colon contained only slight amounts of fæcal material, this being shiny and fetid in nature, often streaked with blood. The mucous membranes in all cases were catarrhal and showed hæmorrhages and hyperæmia. In most cases the cæcum was impacted with a semi-solid mass of fæcal matter. The mucosa in all cases was catarrhal. The contents of the ileum were semi-solid and, for the most part, yellow, due to eggs being used as food material. The vessels of the mesentery were injected. In four cases the mucosa was mucopurulent. Hæmorrhages of extravasation type were seen in the mucosa. The eighteen other cases showed a catarrhal condition with petechiæ and ecchymoses. The contents of the jejunum in all cases were more fluid in form and mixed with mucus. The mucosæ in all cases were dull, due to a catarrhal condition. Four of these showed a mucopurulent exudate with ulcers. In these four cases hookworms were present. The contents of the duodenum were shiny in consistency. In eighteen cases a catarrhal condition was noted, with hæmorrhages in the mucosa. Four cases showed a mucopurulent condition. Peyer's patches were elevated showing an inflammatory process. The mesenteric lymph glands were enlarged and œdematous in all cases.

Liver.—In all cases the liver was enlarged, darker than normal for the most part. One liver was so large that it ruptured in three places. On section blood oozed from the liver in all cases. The liver tissue was very friable; the bile-ducts contained bile, and a catarrhal condition was noted. The gall bladder was always distended with dark-coloured bile. In one case the bile was thick in consistency.

Pancreas.—Normal in all cases.

Spleen.—The spleen in all cases was enlarged to a greater or lesser extent. The spleen was soft and, in five cases, friable. The splenic capsules peeled easily. On section the trabeculæ were visible and the pulp was mushy in consistency. In five cases hæmorrhages were noted beneath the splenic capsule.

Pleural Cavity.—The pleura was shiny in all cases except five. These five cases showed subpleural hæmorrhages and hyperæmia. These cases also showed a sanguineous, yellow exudate in the pleural cavity.

Lungs.—Emphysema was seen in nine cases. The lungs in all cases were hyperæmic and, in five cases, showed hæmorrhages. The bronchi and trachea showed a catarrhal exudate which, in some cases, involved the peribronchial lung tissue.

Heart and Pericardial Sac.—The pericardial sac contained a slight increase in pericardial fluid. The coronary vessels of the heart were slightly injected. The epicardium in all cases appeared normal; myocardium, normal; endocardium, normal.

Brain and Spinal Cord.—The meninges in all cases were thickened and the vessels hyperæmic. Submeningeal hæmorrhages were seen in every case. Perivascular hæmorrhages were seen around the arteries on the surface of the brain. On section, petechiæ and ecchymoses were seen throughout the nervous tissue. The lateral ventricles in all cases were distended with fluid of a sanguineous character and there was fluid beneath the meninges.

Blood.—No parasites were present in the blood, neither were any bacteria encountered. In those cases where intestinal parasites were present, there was an increase in eosinophiles. Normally, eosinophiles range from 1 to 6½ per cent. Our results showed from 3 to 5 per cent. in those cases free from parasites, and in those cases with parasites from 7 to 11 per cent. The hæmoglobin content showed from 40 to 60 per cent., whereas the normal is about 90 per cent. The erythrocytes were lower than normal in all cases. In some of our more severe cases the erythrocyte count was as low as 2,500,000. Our leucocyte count was a great deal higher than normal. In one particular case the count was made just before the animal had a fit. The leucocyte count was 15,540. After the fit another count was made and found to be 16,302. In one case the leucocyte count was 23,000. Three checks were run on each count to insure accuracy. In getting the differential count it was noticed that the polymorphs and lymphocytes showed the greatest increase, the average being 73 per cent. lymphocytes, 20 per cent.; large mononuclears, 6 per cent.; eosinophiles, ½ of 1 per cent., except in those cases where the intestinal parasites were noted. The decrease in red cells brought into the picture of the blood macrocytes, megalocytes and poikilocytes. Nucleated red cells were noted in one dog, with normoblasts, microblasts and megaloblasts.

Bacteriological Investigations.

In three dogs we found the same organism, a short bacillus, in the spinal fluid, spleen and liver. On artificial media it grows luxuriantly. It produces acid and gas on dextrose, lactose and saccharose. It is Gram-negative. On inoculation the organism threw guinea-pigs into convulsions in four hours and killed them in fourteen hours. The injections were made into the peritoneal cavity, 1 cc. being injected. On autopsy the sanguineous, yellow fluid in the abdominal cavities of the pigs contained the organism injected, and it was re-injected into dogs. One dog was given 1 cc. intraperitoneally; the other dog subcutaneously. These dogs showed nervousness and fits as early as fifteen hours after injection. The dog injected in the peritoneal cavity died in three days, in convulsions; the dog injected subcutaneously showed a slight nervousness, but recovered. Autopsy of the first dog injected showed typical symptoms with marked hæmorrhagic gastro-enteritis and peritonitis. Some of the spinal fluid from one of the dogs was passed through a Berkefeld filter and injected into pigs with negative results. In all cases where organisms were found they were recovered from the experiment animals on death.

Natural Infection.

In order to find more out about the disease we ran an experiment on three puppies in the hospital to see if the disease is contagious. The pups were all fed the same food

material. One of the pups was allowed to go where he pleased in the hospital and to associate with all frights disease cases. This pup (1) was the largest and thriftiest of the three. Pup 2 was allowed to associate both with its mother and pup 1, but was not allowed to associate with any of the patients. Pup 3 was fed artificially and used as a control. Pup 1 showed no signs of the disease for about twelve days. At that time he became languid and refused food. Three days later he began to have fits, first light, then increasing in severity as the disease progressed. The animal died in a few days. Pups 2 and 3 were under our observation for 36 days and during that time showed no signs of the disease. On autopsy of pup 1 the lesions were diagnostic. The blood before death was also diagnostic. This experiment is in no way conclusive and we do not want to convey that idea. It is merely to show you what we have done and the results obtained.

Additional Pathology.

On eleven autopsies the same lesions were noted in all cases except four. In two of these cases there was a purulent dermatitis with ulcerative keratitis. A staphylococcus was the causative factor in the dermatitis. Staphylomas were seen on both eyes in both dogs. In one case atrophy of the optic nerves was noted as spoken of before. The one outstanding case was a male setter. The organs were normal in position. Large gangrenous infarcts were seen in the kidneys. The urocyst showed a catarrhal inflammation. The intestines did not contain any worms, and gangrenous areas were seen throughout. The liver showed gangrenous areas also. The spleen was swollen, darker than normal, and was very soft. The lungs were gangrenous throughout and were almost completely solidified. There was also about 15 cc. of foul-smelling exudate in both the pleural cavity and the abdominal cavity.

Two cases that had jaundice showed the following lesions: All organs and musculature were as yellow as gold. Other lesions were not as pronounced as in the uncomplicated cases, except for the intestinal tract. Urine examination, by the Hay's method, showed the presence of bile. Urine examination was made in thirty-four cases and albumen was present in sufficient quantity to be noted easily in twenty-one. In the other cases the reaction was doubtful. Sugar was noted in nineteen cases. The specific gravity varied so much that we could not get anything of any value from it. Microscopical examination of the urine showed all kinds of bacteria; also epithelial cells and pus cells. Blood examinations were carried on but nothing new was noted.

Etiology.

Some people have attributed this disease to diet. From 183 cases on our records of recent months we have collected the following *data* on diet: Some 138 have been fed on table scraps, 21 on corn-bread and meat, the rest on dog food. From variance in diet and under varying conditions of health and breeds we would like to know how diet could cause the disease. If the disease is caused by food poisons, would all foods produce the same kind of toxæmia?

From our work we cannot see how worms cause the disease, for in 22 autopsies, only four showed the presence of worms. Fæcal examinations of all the cases showed that only a very few showed the presence of worms. In most cases the owners had wormed and re-wormed the dogs, thinking that worms were the cause of the disease. If worms cause it, or throw off toxins which would cause it, why did they not produce it fifty years ago? Have they changed morphologically or physiologically since then?

Some have claimed it to be constitutional, but our observations on all breeds show that none is immune. It would seem that the ones most affected are those that run out of doors. Pet dogs continually kept in the house have the disease, but our figures do not show the proportion to be great as compared with those that run out of doors.

In conclusion, our idea is that it is an infectious and perhaps a contagious disease from some organism, or the toxin that it produces, which affects the central nervous system and causes disturbances in the other functional organs.

The International Poultry Congress.

"The third World's Poultry Congress, which has been organised by the Canadian Government," says *The Times*, "is a welcome sign of the increasing interest taken in the scientific treatment of the domestic or barnyard fowl. There is still, of course, ample need for the more intelligent understanding of a profitable rural and even urban industry. It should not be necessary for this country to import poultry produce to the value of £20,000,000 a year. Even in the land that has taught us, according to the author of 'Oft in the Stilly Night,' 'six hundred and eighty-five ways to dress eggs,' the average poultry-keeper is convinced, like the amateur strategist with regard to the science of the battlefield, that he or she has nothing to learn from the professional. All the world over hen-wives have been taught by bitter experience not to count their chickens before they are hatched, and further that occasional eggs, in spite of appearances, may be good only in parts. But that is about the sum total of their knowledge on the subject. The business of egg-production they leave to chance or to Nature, grateful that mankind has been provided with an ingenious machine for the purpose, but wholly indifferent to the mysteries of its working. Possibly because not even the scientist can tell them whether the hen or the egg was the first to come, they have decided that the haphazard ways of their forefathers are good enough for them, and that, beyond adding an occasional handful of scraps to the food which the hen picks up for itself, all that they have to do is to collect the eggs when they are laid—if they can find them—to put aside a certain proportion for setting, and every now and then, when the resulting pullets come to maturity, to sacrifice some, especially those that prove to be indifferent mothers, for the pot.

"Fortunately, scientific breeders, especially during the present century, have taken the matter in hand, and the purpose of the Ottawa Conference is to discuss the results at which they have arrived with a view to a widely extended development of the industry on sound economic lines. As it will be attended by thousands of delegates hailing from upwards of forty different countries, it will be strange if this great gathering of the poultry fanciers of the world does not lead to the more general adoption of approved methods of breeding and feeding wherever the new gospel is preached. From the point of view of the Empire it is a matter for general satisfaction that the rendezvous chosen for the present Congress should be the capital of one of the British Dominions. It is a proper tribute to the standing of these great Imperial States that their leading cities should from time to time play the part

(Continued at foot of second column next page.)

The Veterinary Record.

13th August, 1927.

TORQUAY MAYORAL RECEPTION.

On the occasion of the Annual General Meeting of the National Veterinary Medical Association, to be held at the Town Hall, Torquay, on Tuesday, September 13th, at 10 a.m., there will be an official welcome to the Conference by His Worship the Mayor of Torquay. His Worship will attend in his mayoral robes and will probably be accompanied by members of the corporation also wearing their civic robes.

This is, therefore, one of those functions at which it is most appropriate that Fellows and Members of the Royal College of Veterinary Surgeons should also wear academic costume.

The wearing of gowns to indicate the rank or academic or civic distinction of the wearer dates back to very remote times. In Universities, the material, style and colour of the academic gown, and more particularly the hood, indicate the university, the faculty, and the degree attained by the wearer.

Medical men who are Fellows or Members of the Royal College of Surgeons wear a gown of black stuff, faced with crimson satin. The gown adopted by the Royal College of Veterinary Surgeons is similar in design, but the facings are of maroon watered silk. Members of the profession who have taken a university degree in veterinary science have the right, of course, to wear their university gown and hood. The B.Sc. of London, for example, will wear a hood of black silk, lined with gold coloured silk; the B.Sc. of Edinburgh, a hood of black silk, lined with green silk, bordered with white fur; the B.V.Sc. of Liverpool, a hood of black cloth, lined with grey silk, bordered with white fur. And the Masters and Doctors in Veterinary Science of any of these Universities will wear their distinctive robes.

All those who can be present at the Annual Meeting at Torquay should undoubtedly attend in academic costume, those entitled to university distinction by preference wearing their university robes, and Members and Fellows who are not university graduates wearing the Member's or Fellow's gown. It will not only be a demonstration of courtesy to His Worship the Mayor, but it will add in a striking manner to the dignity and decorum of the reception.

No one, however, should stay away from the meeting because he has been unable to bring his robe with him. The wearing of gowns is optional, not compulsory, but it is to be hoped that the majority of those present will find it possible to fall in with the wish we have here expressed.

British Medical Association Congress at Edinburgh.

PROCEEDINGS OF THE SECTION OF COMPARATIVE MEDICINE.

The ninety-fifth annual meeting of the British Medical Association, held at Edinburgh from July 19th to the 23rd, was rendered particularly noteworthy, from the point of view of our profession, by the inception of a Section of Comparative Medicine, over the proceedings of which Dr. O. Charnock Bradley presided. The following brief summary of the proceedings appeared in the issue of the *British Medical Journal* of August 6th:—

"The chairman, Dr. O. Charnock Bradley, expressed his gratification at the inception of this new Section, and remarked on the already deep debt that veterinary education in Edinburgh owed to human medicine in that city. The discussion on problems and aspects of comparative medicine was opened by Professor J. B. Buxton (Cambridge), who considered the various general aspects of the subject and the advantages of co-operation between the medical and veterinary professions. Dr. Andrew Balfour (London) directed attention to the essential unity of human and veterinary medicine and the methods by which this unity might be realised. In tropical medicine this was very apparent, more so than in many other branches. He detailed many examples of advances in human tropical medicine which depended on animal experimentation and research. Mr. W. H. Andrews (Ministry of Agriculture) discussed the problems of filterable viruses, and drew attention to the advantages enjoyed by the veterinary pathologist in being able to select the actual species of animal suffering from the disease. Professor Lorrain Smith considered that the main problem lay in the application of the experimental method to medicine, and showed how animal experimentation had thrown light on many obscure human conditions. Professor Browning pointed out the necessity for considering the peculiarity of the animal species, the diseases of which were being investigated.

"Mr. James McAllan (Aberdeen) dealt with the question of milk and meat inspection in regard to public health, and believed that both should be in the hands of the veterinary officer under the administrative direction of the medical officer of health. Professor Matheson discussed the work of his department in connexion with the Edinburgh Zoological Gardens, and the bearing of that work on comparative medicine, Dr. R. A. O'Brien (Beckenham) expressed his belief in the benefits resulting from the laboratory co-operation between veterinary and medical workers, and discussed the translation of the results of this work into field experiments. Dr. Nasmyth thought that comparative medicine could help to explain the periodic outbreaks of epidemics and the disappearance of certain

(*Continued from previous page.*)

of host in international meetings, and Canada, by reason of her success in developing the industry as a source of commercial profit, should provide a mine of information to the assembled delegates."

It has been decided that the next World's Poultry Congress three years hence is to be held in London, England. Mr. Frederick C. Elford, of Ottawa, was elected president of the congress in succession to Mr. Edward Brown, of London, who retires at the end of the year.

types of disease from certain localities, and pleaded for the incorporation of the veterinary colleges in the universities and the extension of veterinary research.

"Dr. F. A. E. Crew considered it futile to talk about co-operation between professions, contact being essentially individual. The study of mankind was by no means only man; and those in power should take advantage of the already existing co-operation and extend it. One of the great problems of the future was the evolution of a disease-resisting stock. Lieut.-Colonel Greig discussed the importance of joint work by the medical and the veterinary professions, and quoted examples from his own experiences in India. Dr. T. W. M. Cameron stated that, while there was unanimity as to the value of co-operation between the medical and veterinary professions, no one had attempted to formulate a definition of "comparative medicine." It was neither "veterinary medicine" nor "diseases common to man and animals," but the comparison of all the sciences which comprised medicine as applied to the whole of the animal kingdom. Viewed in this light, comparative medicine was really medicine, and both human and veterinary medicine were sister sciences, both subsidiary to a wider science, which had as its aim the elucidation of the laws and principles governing the cause, spread, and relief of disease."

CLINICAL AND CASE REPORTS.

Retained Fœtus In a Manchester Terrier Bitch.

By Professor A. R. Smythe, M.R.C.V.S., D.V.S.M., Royal Veterinary College, London.

A Manchester terrier bitch was admitted to the out-patients' clinic in April, 1927, suffering from a chronic uterine discharge. She had had three litters of two, two, and three pups, the last litter being born in 1922.

All three pregnancies were normal and the pups born alive.

Since that period she had had no known connection with a dog and her œstral periods had been normal. The diagnosis was one of chronic metritis, and it was decided to perform hysterectomy.

This was done, and the bitch made a normal recovery.

On examination of the uterus a tumour-like mass about two-and-a-half inches in diameter, and situated in one of the horns, was evident.

On incision this was found to be due to a fully-developed fœtus which had been retained.

Most of the soft structures and part of the long bones had undergone softening and had disappeared, but the mass contained a collection of hair, teeth, vertebræ and principally the bones of the skull, which had become separate at their lines of junction so as to form an irregular mass with projecting sharp points; these had in places pierced the uterine wall.

The chief interest in this case lies in the period of time this fœtus had been retained.

The bitch had not long since passed through a normal œstrum and from the fact that she had little opportunity of access to a male it appears that the retained fœtus may date from a period of five years.

In any case, a prolonged period must have elapsed after maturity of the fœtus for disappearance of so many of the normal structures.

Purpura Hæmorrhagica in Cat.

By Henry Gray.

This is a somewhat rare disease in this species and also in the dog; that is, so far as my experience goes, but judging by Continental literature it is frequently observed in the dog in various European continental countries, and several theses for the doctorate have been based on it.

Not long ago I encountered a case of this disease in a blue Persian cat which was passing bloody urine. On the first occasion I saw it I mistook it for one of cystitis following retention of urine and spontaneous recovery from urethral obstruction. But when I was informed next day that blood was issuing from the nostrils and mouth, I asked the owner to bring the cat to my place for further examination, when I found petechial spottings scattered all over the skin and especially that of the ears. It was therefore submitted to treatment for this malady and ultimately recovered, much to the gratitude of the owner who valued it as a stud cat. No heroic treatment was adopted.

A recent survey made by the United States Department of Agriculture shows that there are now 1,200 cities which have enacted ordinances prohibiting the sale of milk from tuberculous cows, and that the sentiment favouring the elimination of tuberculosis from dairy herds is growing rapidly throughout the country. The prediction is that within a short period of time every city and town will require the application of the tuberculin test for all cows supplying milk to be sold for human consumption.

REPORT.

Royal Veterinary College.

EXTRACTS FROM THE ANNUAL REPORT FOR THE YEAR ENDED 31ST MARCH, 1927.

The Governors are again able to report that the educational work of the College has been carried out in a satisfactory manner, and that the attendance and behaviour of the students have been very satisfactory.

During the year 1926-27, 34 students entered the College, as against 29 in the preceding year. The number of students in attendance at the beginning of the winter session, 1926-27, was 124. The number for the preceding winter Session was 118.

At the examinations held by the Royal College of Veterinary Surgeons, in July last, 75 students presented themselves for examination, and of these 53 (or 71 per cent.) proved successful, while at those held in December, 33 (or 66 per cent.) of the 50 students who presented themselves succeeded in passing. The percentage of passes at the corresponding periods in the previous year was 64 and 89 respectively.

Of the 125 students of the College who presented themselves for examination during the year, 86 (or 69 per cent.) passed, while of 274 students who presented themselves for the same examinations from the other veterinary colleges, 70 per cent. passed.

During the previous year 138 students of the College presented themselves for examination, of whom 72 per cent. passed, while from the other veterinary colleges 312 students presented themselves, of whom 67 per cent. passed.

In 1926 the number of students of the College who obtained the diploma of the Royal College of Veterinary Surgeons was 17. Sixteen students succeeded in passing the first professional examination, 25 the second, and 28 the third. The numbers during the the previous year were 26, 30, 28, and 16 respectively.

The examinations for the clinical and other prizes instituted by the Governors with a view to encourage the acquirement of general and practical proficiency by the students were duly held at the close of the session.

INFIRMARY.

The number of animals retained for treatment in the infirmary has been 731, as against 786 in the preceding year.

The daily average number of horses in the infirmary during the year has been 12 ; in 1926 the average was 13.

The charge for the keep and attendance of horses has remained throughout the year at 4/6 per day.

No change has been made in the charges for work done in the forge, which are as follows : —

SHOEING.

1.	Cart horses	12/6 per set.
2.	Light cart horses...	11/6 ,, ,,
3.	Van horses	10/0 ,, ,,
4.	Carriage, hackney and commercial brougham horses	8/6 ,, ,,
5.	Cobs	7/0 ,, ,,
6.	Ponies	6/6 ,, ,,

REMOVES.

Numbers 1, 2, and 3	1/0 each shoe.
Numbers 4, 5, and 6	9d. ,, ,,

The daily average number of dogs under treatment has been 18, as against 19 last year and 21 in the preceding year. Under the bye-laws of the College, the payment of a subscription of £1 1s. annually entitles the subscriber to the admission of dogs and cats to the infirmary for treatment. The charge for the keep of dogs and cats has remained throughout the year at 1s. 6d. and 9d. per day respectively.

EXAMINATIONS FOR SOUNDNESS.

During the year the number of horses examined for soundness has been 179 ; the number during the preceding year being 127.

SUBSCRIBERS.

Four hundred and ninety-two new subscribers have been enrolled during the year ended March 31st, 1927. The number for the preceding year was 573.

OUT-PATIENTS' CLINIQUE.

During the year, 4,892 individual cases have been brought for advice or treatment, and as several of these pay more than one visit, the total number of inspections which have taken place amounts to 6,365. The numbers last year were 5,675 and 7,077 repectively.

BUILDINGS.

During the year the College premises have been maintained in a state of repair, but only urgent and necessary work has been carried out, no additions or alterations having been made on the existing buildings.

APPEAL FOR FUNDS FOR REBUILDING.

Reference was made in the last annual report to the fact that a deputation of Governors had been received by the Minister of Agriculture to discuss the question of a grant sufficient to bring the College buildings and equipment up to modern requirements. The Governors have now to report that the Ministry has promised a grant on the £ for £ basis of a sum not exceeding £35,000, and as the total sum required is estimated at £85,000, an appeal was issued by the Governors to the public for £50,000, in the early part of January. At the 31st March the total of the fund was £9,777 4s. 9d. A Special Building Fund and Appeal Committee has been appointed to try and collect the sum aimed at, and the following Governors have been elected to this Committee : —Lt.-Col. Sir Merrick R. Burrell, Bart., C.B.E., Mr. E. M. Crookshank, Sir Gilbert Greenall, Bart, C.V.O., Right Hon. Viscount Lascelles, K.G., Mr. Ernest Matthews, C.V.O., Right Hon. the Earl of Northbrook, and Lt.-Col. Sir Archibald Weigall, K.C.M.G.

In addition the following members of the veterinary profession have been co-opted on the Committee :— Lt.-Col. J. W. Brittlebank, C.M.G., M.R.C.V.S., D.V.S.M. ; Mr. H. J. Dawes, F.R.C.V.S. ; Major F. T. G. Hobday, C.M.G., F.R.C.V.S.; Mr. J. W. McIntosh, M.R.C.V.S., F.R.S.E. ; Major-General Sir John Moore, K.C.M.G., F.R.C.V.S. ; Mr. E. Alfred West, F.R.C.V.S.; and Professor G. H. Wooldridge, F.R.C.V.S., M.R.I.A.

Although this report covers the period to 31st March last, it may not be out of place to record that since that date His Majesty the King has sent a donation of one hundred guineas, H.R.H. the Prince of Wales, fifty guineas, and H.R.H. the Duke of Connaught, twenty-five guineas.

In aid of the Rebuilding Fund the Kennel Club has kindly granted permission for a Championship Dog Show to be held at the Crystal Palace on the 27th and 28th October. On the latter date, H.R.H. Princess Mary, Viscountess Lascelles, has graciously consented to attend the show, and present several of the championship prizes. For the best dog or bitch in the show, a fifty guinea gold cup has been presented.

Clement Stephenson Fund.

In September last a "Clement Stephenson Entrance Scholarship" was awarded to Mr. P. S. Watts. These scholarships are of the value of £80 per annum, and are tenable for four years. The Trustees will offer one scholarship for competition in September next. Lt.-Col. Sir Merrik R. Burrell, Bart, C.B.E., has been elected by the Governors of the College as a trustee in place of the late Sir Stewart Stockman.

Research Institute in Animal Pathology.

At the beginning of the year the staff included the director, the assistant director, and two senior assistants. In January, 1927, one of the senior assistants, Dr. W. H. Andrews, resigned his post, having been appointed Director of Research under the Ministry of Agriculture and Fisheries. Mr. A. W. Stableforth, B.Sc., M.R.C.V.S., D.V.S.M., has been appointed to one of the vacancies for assistants.

As previously reported, a Special Committee has been appointed to consider the programme of research work to be carried out in the Institute and report to the Governors of the College on the results of the researches, and the first meeting of this Committee was held on 21st December last. In future the Committee will meet quarterly in January, April, July and October, and Mr. E. M. Crookshank, senior vice-president of the College, has been elected chairman.

The principal subjects of investigation during the year were quarter-evil and braxy, parasitic gastro-enteritis in animals, Johne's disease, tuberculosis and abortion in mares.

ABSTRACTS.

["T 53 Merck"—A New Remedy for Liver Fluke in Cattle. By M. Zunker, V. Bach and W. Jordan (*Berl. Tier. Wochenschr.* Vol 43. Feb. 25th, 1927, pp. 121-123.]

The authors succeeded in destroying all liver fluke within three or four days in cattle which received one intraperitoneal injection of T 53 Merck, a lipodial solution of carbon tetrachloride, made by the firm of E. Merck, in Darmstadt. The dose used was a minimum of 50 c.c. for grown cattle, 40 cc.m. for young cattle and 30 c.c. for calves. Examinations made both *post-mortem* and clinically were very satisfactory. 658 animals have been treated since the beginning of January, 1927, with excellent results. D. K.

[Experimental Investigation as to the Possibility of the Spread of Foot-and-Mouth Disease by Flies. By Dr. G. Kunike. (*Berl. Tier. Wochenschr.* Vol. 43. Feb. 25th, 1927, pp. 123-126.)]

The author was unable to carry out research on cattle on the spread of foot-and-mouth disease by flies. Isolation of the naturally-infected oxen presented difficulties and possibly would have led to unreliable results. Since only artificially-infected guinea-pigs were used for the experiments, the result is less a proof of how far flies are of practical importance as carriers of the disease, as of how long lymph keeps virulent on or in the flies. From the results the probability is that flies are not specific intermediary hosts in the causation of foot-and-mouth disease, but are only to be regarded as temporary carriers of infection.

The virus remains infectious on the bodies of the flies as long as 48 hours, in the intestinal canal as long as 18 hours, and a still shorter time in the proboscis. Infection by puncture or defaecation therefore, does not often take place, and certainly not through the absorption of virulent lymph, nor the blood absorbed during the incubation time. In addition to length of time, the matter of quantity is important, since the virus adhering to 120 flies' legs and 20 flies' probosces was not sufficient to spread the disease, but this was accomplished by the virus adhering to 300 legs and 50 probosces. In actual experience, the varying degree of virulence is of great importance. In these cases it was of no consequence, because in all experiments only the highly virulent lymph of the island strain was used, just as in the control infections. D. K.

[Medicinal Treatment of Dystocia in the Sow. B. Schmotzer, in *Allatorvosi Lapok*, 1926. No. 10, p. 105.]

To provoke expulsive efforts, and to draw out dead or living fœtuses which are kept back by some obstacle, Schmotzer recommends a mixture of quinine (2 grams), and of extract of ergot (2 to 3 grams), administered in the form of pills. Their use may be renewed six times, at intervals of one hour, according to necessity. (Ex *Revue Générale de Médecine Vétérinaire*, July, 1927.)

R. L. Higgins.

[Toxicity of Liver Flukes. Leeb, in (Munich Thesis) *Berliner Tierärztliche Wochenschrift*, 30th July, 1926.]

Dried flukes contain albumen (63%), fat (10%), glycogen (20%), as well as numerous proteolytic and glycolytic ferments. The excretions contain carbonic acid, sulphur of carbon, ammonia, colouring matter, blood and bile, albumen, derivatives of albumen, ferments and fatty acids which are volatile, that is, products analogous to those observed by Flury in tæniidæ.

The harmful properties due to mechanical inflammation of the bile ducts are less important than those provoked by the products of metabolism or which result from the decomposition of dead flukes. The injection of aqueous extracts of dried flukes or of their excretions and secretions provokes symptoms identical with those of distomatosis.

In the treatment of the disease, it is important therefore to expel the parasites and to avoid their death in the bile ducts. (Ex *Revue Générale de Médecine Vétérinaire*, July, 1927.) R. L. Higgins.

DIVISIONAL REPORT.

Scottish Metropolitan Division.*

Summer Meeting at Edinburgh.

The Summer Meeting of the above Division was held in the Royal (Dick) Veterinary College, on Wednesday, 15th June, 1927. The President, Professor R. G. Linton, occupied the Chair, and there were also present Messrs. J. Borthwick, T. M. Inglis, J. Taylor, J. Player, J. Aitken, S. Robson, G. D. Munro, G. F. Boddie, J. G. Ross, H. F. Downie, P. Fisher, Major Pryer, Messrs. W. Pool, H. Preston, A. Brownlee, J. Sommerville, J. Ker, J. Bishop, T. P. Young, J. P. Walker, J. R. Baillie, Professors J. Russell Greig, and W. M. Mitchell, and the Hon. Secretary.

Visitors.—Professor Imrie (Glasgow), Mr. J. Lindsay (Dumfries), J. Macfarlane (Glasgow), J. N. Ritchie (Edinburgh), Dr. Kern (Berne, Switzerland), S. Sharp (Dundee), G. B. Brook (Edinburgh), R. M. Davidson, H. Burrows, J. E. Wilson, F. Aston, R. F. Willett, J. Holmes, and A. F. Watson.

The attendance thus numbered 41. Apologies for absence were intimated from Dr. Bradley, Messrs. A. Gofton, E. J. H. Sewell, and J. H. Motion.

A meeting of the Council of the Division preceded the General Meeting.

In view of the limited time at disposal, it was decided to take the Minutes as read.

New Members.—The following gentlemen, who had been nominated for membership at the last meeting, and whose names had been approved by the Council, were elected as members: Mr. H. Preston and Mr. A. Brownlee, of the A.D.R.A., and Mr. J. P. Walker, of Haddington. Major R. G. Anderson, Mr. J. G. MacGregor and Mr. C. Weighton were nominated for membership.

The President then briefly introduced Professor W. M. Mitchell, who read a paper upon "The Operation for the Relief of Crib-biting," introduced by Forssell of Stockholm, and illustrated his paper by lantern slides showing the steps of the operation. [Professor Mitchell's account of his operation appeared in last week's issue of the *Record*.—Ed.]

Professor Linton called for a vote of thanks to Professor Mitchell, and to Mr. Brook who operated the lantern, and this was heartily accorded.

Demonstration of Poisonous Plants.

Professor J. Russell Greig, before exhibiting a collection of poisonous plants, said: The time at our disposal this afternoon is so limited that I propose to say little here upon the subject of Plant Poisoning. In the demonstration, each plant bears a label upon which will be found its name, its habitat, a brief description of those characters by which it can be most readily recognised, and mention of the toxic principles upon which its poisonous properties depend.

In teaching Plant Toxicology, it is important, I believe, that the student be presented with his specimens in the living state. It has been found that the student has difficulty in recognising his poisonous plants when he knows them only as preserved specimens, and this collection has, at least, the merit of being composed only of living plants.

In passing, I would appeal for a wider interest being shown in the subject of Plant Poisoning. It is a subject that has been neglected by the Profession as a whole—as witness, the paucity of its literature. There are many important and interesting occurrences of such poisonings which are worthy of careful record, and the literature is the poorer by their absence.

I have been asked to take this opportunity of again calling attention to the drug *Derris*.

Derris or *Deguelia* is a genus of climbing shrubs native throughout the Eastern tropics. The powdered root of certain species, notably *D. elliptica* (also known as Tuba Root) has long been known to possess insecticide properties, and some three years ago I called attention to the value of the drug as an acaricide in the treatment of mange. The active principle appears to be a nitrogen-free, non-glucoscidal resin named *Derrid*. The resin is actively soluble in alcohol and ether but is, of course, insoluble in water.

I have experienced great difficulty in obtaining samples of the drug in pure form and in continuous supply, and indeed, only small quantities could be procured at a time. Within the last few weeks, however, I have received information from a firm of manufacturing chemists, Messrs. Harkness, Beaumont and Co., of Leith, that they are now in a position to supply the drug in quantity, and I understand that Messrs. R. Young and Co., manufacturing chemists of the Cranstonhill Chemical Works, Elliot Street, Glasgow, are also prepared to supply the drug in a pure state. I willingly give this information because I have received so many enquiries as to how the drug could be obtained.

Since the active resin is insoluble in water, it is necessary that some emulsifying agent be added to aqueous preparations. Soap has been found suitable for this purpose, and my colleague, Mr. Miller and I have devised the following formula:—

Powdered derris root,	2 parts.
Sodium bicarbonate,	2 parts.
Powdered curd soap,	1 part.

One ounce of the powder is mixed with two pints of water. The dressings should be freshly prepared. This formula must be understood to be merely tentative and may require modification.

Derris is a powerful acaricide; it is practically non-irritant and is possessed of but low toxicity when applied as an external dressing. I would commend it to your attention.

The following British poisonous plants were exhibited:—Taxus baccata, Colchicum autumnale, Equisetum arvense, Helliborus niger, Helleborus fœtidus, Helleborus viridis, Aconitum napellus, Ranunculus species, Cytisus laburnum, Cytisus scoparius, Bryonia dioica, Atropa belladonna, Hyoscyamus niger, Datura stramonium, Solanum dulcamara, Arum maculatum, Mercurialis perennis, Conium maculatum, Oenanthe crocata, Digitalis purpurea, Pteris aquilina, Daphne laureola, Daphne mezereum, Chelidonium majus, Prunus laurocerasus, Rhododendron, Lychnis githago, Ergot, and Lolium temulentum.

* Received on 20th July.

The members then proceeded to the Clinical Department where, in the Large Animals' Operating Theatre, a horse affected with crib-biting had been cast and chloroformed in preparation for a demonstration of the operation by Professor MITCHELL. The operation was successfully carried out, the steps being explained.

Major PRYER then gave an account of the three cases operated upon previously, as follows:—"I have pleasure in responding to Professor Mitchell's request that I should give you some information regarding the three patients upon which he has performed this operation up to date. I knew all the animals well prior to operation and have been in a position to keep them under observation ever since.

The first case operated upon was a chestnut polo pony mare, an excellent performer of good club, if not actually of international, standard. A year ago, as the result of persistent crib-biting, she was in wretched condition. One is tempted to use a stronger adjective, because I have rarely seen a more emaciated subject. She is now awaiting your inspection outside. She is in first-class condition, her former vice has been eradicated completely, and she is playing polo as well as ever.

The second case was that of a Field Artillery wheeler. His conformation was satisfactory and he was a good worker, but owing to crib-biting he always presented such an under-nourished appearance that his commanding officer said, with justification, that he spoilt the look of the battery.

During the first week after this animal's discharge to duty after the operation, he gained twenty-nine pounds in body weight. Since then he has progressed without a setback and now is in eminently satisfactory condition.

The third case is that of a troop horse known as "Nancy." She was an admirable show jumper but the cumulative effects of persistent crib-biting were playing havoc with her. Since the operation her condition has improved out of all recognition. Some six weeks ago she was in the British Army team which won in the International Army Jumping Contests at Nice and Rome. Last week she won The Duke of York's Cup, the first prize in the Open Jumping at the Richmond Horse Show.

I think it will be agreed that these results are really spectacular.

The performances put up by the polo pony and the jumping mare, after operation, are of interest as they demonstrate that what may be termed the gymnastic ability of the animal is uninterfered with. It may be said that three cases are insufficient to enable one to claim infallable success for the operation. That may be so. All I can say is that in these three cases the result has been most gratifying and far beyond my expectations."

After the conclusion of the operation the members examined the polo pony mare referred to and expressed their satisfaction with its general appearance, and with the manner in which the wound had healed.

This concluded a very successful meeting.

WM. C. MILLER,
Hon. Secretary.

Animal Diseases Research Association of Scotland.

PRESIDENT'S ADDRESS TO THE ANNUAL MEETING.

The work of the Animal Diseases Research Association of Scotland and its various Committees was described at the Annual Meeting of the Association by Mr. Falconer L. Wallace, of Candacraig, the President, who indicated that a scheme for increasing the research staff was being considered, and emphasised the need for funds to make this development possible. The address was as follows:—

The Association is now in possession of a really well-equipped institute. There is ample accommodation for investigation into animal diseases. The buildings have been so designed that there is facility for the work of the different specialised departments. At Moredun there is good stabling for horses and cattle and there are special rooms for small animals. There are, in addition, seven excellent paddocks of two—four acres each. The Association's laboratories at the Royal (Dick) Veterinary College will be equipped especially for those branches of the work which can be executed without the use of large animals.

A private donor gave £500, and the Carnegie United Kingdom Trust gave £250 for the foundation of a good library. In addition, the Board of Agriculture for Scotland allow an annual maintenance grant. The capital sums have been expended and it has already been necessary to extend the shelving originally provided. It is believed that the library is now at least as good as that of any other research institutes in the country which are concerned with the diseases of animals. A very complete system of indexing the literature on animal diseases has been inaugurated so that all that has been written on each subject may be immediately and easily available when required. The current literature is dealt with as it appears and a start has been made with the important previous work. The system has been so arranged that the regular reading of the research staff contributes automatically to it. The stage has now been reached when it is necessary to employ a whole-time librarian. At least twenty-five per cent. of the time of a research worker is taken up in study of the literature of the subjects in which he is interested. It is essential that he be fully acquainted with the latest developments in his branch of science. Very much fuller use can be made of his work if the less technical parts can be carried out for him. A librarian could be of very great assistance to the investigators by maintaining the references to the literature and ensuring that everything in the library is readily available.

We have great reason to be very grateful to the Research Committee for all they have done for us. The Committee has been strengthened by the co-option of Mr. McCallum, of the Board of Agriculture for Scotland, Lieut.-Col. McKendrick, a very distinguished medical statistician, and Mr. Peggie, a well-known veterinary practitioner in the South of Scotland. The Research Committee have given up a great deal of their time and are considering our problems in great detail. The Association is indeed fortunate in receiving the advice of such distinguished scientists, and Mr. Pool has told me that he personally is very grateful to them for the help they have given. The work and time of these gentlemen is given purely in the interests of

science and "*pro bono publico*." The investigations lead to enquiry into details of many very specialised subjects, and it is a great source of strength that the Association is able to get help in these directions from its Research Committee.

A private donor has presented the Association with a well-equipped motor laboratory. A great deal of consideration has been given to the design and it is believed that the vehicle will be as near perfection as it is possible for anything to be. Wherever it goes, it will be a complete self-contained unit.

It is the policy of the Development Commissioners and of the Board of Agriculture for Scotland that the Association provide one-third of its expenditure, and even then the remaining two-thirds contribution from public funds is strictly limited.

It is pleasant to note that there has been a great increase in the local income. This has chiefly been from County Councils and agricultural bodies. This recognition of the Association's work is very gratifying and it is hoped that in the ensuing year other County Councils and agricultural bodies will add to the local income.

A larger maintenance grant is urgently required so that a larger staff of investigators can be employed. There is already accommodation for them and the overhead charges are nearly as heavy for a small staff as they are for a larger one. An increase in the maintenance charges under this head would increase the results obtained from the work undertaken out of all proportion.

Research.

The Association is represented on the Animal Diseases Sub-Committee of the Agricultural Research Council, and takes part in its deliberations.

The Lamb Dysentery Sub-Committee of the Agricultural Research Council is composed of the heads of the different official institutes for the study of animal diseases. Certain field experiments have been carried out under its auspices and it has discussed the individual work carried out by the institutes. The Association is represented on the Committee, and of course carries out its own individual work on lamb dysentery.

A meeting of the Sterility Committee was held in 1926, and as a result a proposal was made to the Board of Agriculture for Scotland that certain funds be given so that a start may be made with the collection of material required by the different investigators concerned. It is anticipated that the Association will undertake the pathological side of the enquiry when it has an adequate staff.

Braxy.—The following are the results of using the vaccine during the last four years :—

Inoculated.		Uninoculated (Controls)	
Year.	Percentage Mortality.	Year.	Percentage Mortality.
1923-24	4·5	1923-24	6·5
1924-25	3·4	1924-25	5·3
1925-26	3·5	1925-26	5·9
1926-27	1·4	1926-27	6·4

It is apparent that the death rate in the controls is very much lower than it is reputed to be on bad braxy farms. Many owners have such faith in the vaccine that they inoculate all their hoggs and it is reasonable to believe that as a result many of the worst braxy farms are unrepresented in the controls. The percentage mortality in the controls is thus lower than it should be. The consensus of opinion is that the vaccine is most valuable and this would not be the case if there were not a greater reduction in the mortality than is apparent from these figures. On the other hand, there is reason to believe that in the deaths among the inoculated hoggs are many from causes other than braxy, and that this raises the percentage mortality unfairly. Since the vaccine was introduced, improvements in the technique of preparing allied vaccines have been developed in this and other countries. There is need to make further enquiry to ascertain if a stronger preparation can be used safely. The time of the existing staff has been so much occupied that it has not been possible to take up this work.

Lamb Dysentery.—For the first time in the history of the Association it has been possible to keep sheep at headquarters in natural conditions. Lambs were bred at Moredun specially for experiments in the artificial transmission of lamb dysentery. The work of the past season has shown that lamb dysentery can be induced by feeding lambs on the dung of infected lambs, whereas there was failure when all the other methods of infection were employed. No further evidence has been found for suspecting that infection occurs before birth and as the case stands at present the only ground on which there is any reason for entertaining this hypothesis is the small percentage of cases in which death occurs within 24—48 hours of birth. It has been found that *Bacillus welchii* antitoxin confers strong immunity to lambs in most cases.

Grass Disease of Horses.—Active investigation into this disease is in progress. Professor A. J. Clarke, Professor of Pharmacology, University of Edinburgh, and Dr. W. G. Smith, Advisory Officer in Agricultural Botany, Edinburgh, and East of Scotland College of Agriculture, have both undertaken to help in their respective spheres. It is considered to be likely that a poison of some kind acts on certain nerves of the body. The whole train of symptoms suggests a definite derangement of one part of the nervous system, but there are some features which contradict this supposition. This has raised the question of the normal physiology of the horse in some details which are in doubt. It may be necessary to undertake some work to elucidate these points and it is hoped that with the collaboration of those who are helping in the investigation, light may be thrown on points which may help in the solution of the grass disease problem. If I understand the position, the poison might quite easily be of bacterial origin and due to such an agency as *Bacillus botulinus* toxin, or it might be a poisonous principle from a plant or from a fungus. On the other hand, there is a possibility that in the process of digestion abnormal poisons are evolved which are responsible for the symptoms.

Mr. Pool has just returned from a brief tour in the Eastern Counties of Scotland accompanied by Dr. Andrews, Director of the Ministry of Agriculture's Veterinary Laboratory, and by Professor Greig, of the Royal (Dick) Veterinary

College, and has had very interesting discussions with them on the subject of "grass disease."

Bovine Abortion.—The Research Committee has given detailed attention to this question and has drawn up details of the lines which they think any investigation of the disease should follow. This scheme would involve the whole time of an investigator for five years and cost about £6,000.

Need for Increase in the Research Staff.

There is a very urgent need for increase in the research staff. We lack money. Research cannot be properly undertaken in a hurry. It is necessary to proceed warily, step by step, and a false step will spoil a whole campaign. There are numbers of urgent problems in connection with the diseases of animals, and there is always a temptation to give a little attention to everything. If this policy is followed it is impossible to give sufficient detailed attention to the main problems. On this account it has been necessary to take stock of the position and lay down a policy for the future. To give adequate attention to lamb dysentery and grass disease of horses with the existing staff it has been necessary to eliminate or diminish work on other diseases. A scheme for increasing the research staff is before the Research Committee at the moment. At present we lack the necessary money. The Development Commissioners have asked for an assurance that the staff of the Association are able to take full advantage of the laboratory accommodation (including the motor laboratory) at their disposal. The existing staff cannot take anything like full advantage of the Association's accommodation. We lack the money to pay enough staff.

It is hoped that, in the future, close collaboration may take place between the Association and other Institutes. The work of the Sterility Committee will partly be in collaboration with the Animal Breeding Research Department of the University of Edinburgh. We hope to play our rôle in this important investigation—but there again it is a question of staff. There is a big field for collaboration with the Rowett Research Institute in connection with the importance of deficiency in nutrition and its connection directly or indirectly with disease. Mr. Pool has recently, in personal interviews with Dr. Orr, agreed with him upon a certain field of investigation in sheep diseases in which we can work in close collaboration. Mr. Pool is going to place this matter before the Research Committee.

. . . . . .

Application for £6,000 Grant.

At a meeting of the Directors of the Association, held previously, it was agreed to make application to the Empire Marketing Board, through the Board of Agriculture for Scotland, for a grant of £6,000, spread over a period of five years, for the purpose of a special investigation into abortion in cattle.

Having bought a tuberculous cow for £1, ostensibly for pig food, Thomas Cambray, of Carnforth, sent it to Lancaster auction for re-sale, where luckily it was seen by a veterinary surgeon who ordered the animal's destruction. Cambray is the poorer by a fine of £10 for failing to notify the animal.

Gastric Toxæmia in a Bitch.*

By G. A. Moore, Dublin.

A Cocker bitch was brought into the yard in a state of general depression almost bordering on coma. She refused to eat, move or sleep, but just "lay there."

The owner told us she had whelped six pups three days previously and was rearing the six. Up to the time of whelping she had been fed on oatmeal porridge, milk, potatoes and an occasional dog biscuit (Spratt's). After whelping she got no food except milk for two days. Then she escaped out of the yard and visited a butcher's manure heap, where she gorged herself with decaying animal matter. That night she owner noted her dull and off her milk ration. The next morning she was worse and later in the day the puppies were "grumbling" a good deal and appeared to be getting no feed. He brought them into the house and fed them with diluted cow's milk off a piece of cotton wool and brought the bitch into the yard.

She received an injection of apomorphine, gr. $\frac{1}{10}$, without effect beyond increasing the depression. Local emetics were tried without avail. That night the animal was found to have passed no fæces all day, so a tablespoonful of "Nujol" was administered. A guarded prognosis was given and the owner advised to leave the animal for a few days. Doses of "Nujol" were continued for a week, every night and morning, and still no fæces were passed. The animal lay during the time in a semi-comatose condition and a thick yellowish white, muco-purulent discharge appeared in the eyes. This was kept constantly wiped away. It was not at all like the discharge found in cases of distemper. The semi-comatose condition continued for eight days, during which time, if the owner came to look at her, the bitch would look up and feebly wag her tail. Her temperature varied between 102·5° F. and 104° F. Soapy enemata were given on the second, third and fourth days. On the 8th day she passed some fæces, of a thick, black kind and with a peculiar nauseating odour. A few more doses of "Nujol" were given until frequent normal evacuations were produced, some raw meat fed and complete recovery ensued. A course of tonics was given. The discharge from the eyes dried up spontaneously. For a week after her entry into the infirmary the bitch received no food but plenty of water was allowed. She drank sparingly.

I hesitated a good while over the title of this case, but I think eventually I chose the right one. This was a dog which had not been accustomed to feeding on decomposing animal matter. The natural tendency of a dog is to eat such stuff and if he manages to secure a fairly constant supply his stomach, no doubt, becomes "educated" to it, or, in other words, the dog becomes immune to the toxic effects of such food. But when a dog has been fed for a long time on non-decomposed food and closely supervised so that he is prevented from obtaining any other, is it not possible that if he then manages to get a feed of decomposing matter, he will be liable to a form of gastric trouble caused by the toxins of the various putrefactive bacteria causing the decomposition? Again, this particular dog's stomach had probably been deranged by the irrational feeding to which it was subjected. Continual feeding of such stuff as oatmeal porridge must have a bad effect on a dog's digestive system, when the natural canine food is raw flesh.

*Submitted for Award under the N.V.M.A. Clinical Prize Scheme for Students, 1926.

NOTES AND NEWS.

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events.

Aug. 15th—Meeting of the Editorial Committee, N.V.M.A., at 4-30 p.m.

Aug. 22nd—Last day for entry to R.C.V.S. Jubilee Memorial Bursary Examination.

Sept. 12-17th—N.V.M.A. Congress at Torquay (Sept. 12th—Committee and Council Meetings).

Sept. 22nd, 23rd.—Examination at R.C.V.S. for Jubilee Memorial Bursary.

Oct. 5th—R.C.V.S. Committee Meetings.

Oct. 6th—R.C.V.S. Committee Meetings.

Oct. 7th—R.C.V.S. Council Meetings.

Members or Fellows desiring gowns for the annual meeting at Torquay should apply to Messrs. Ede and Ravenscroft, 93 Chancery Lane, W.C.2, stating whether a Member's or a Fellow's gown is required, chest measurement and height. Particulars of cost will be supplied on application to Ede and Ravenscroft, who are the official robemakers to the College.

Obituary.

WARD, GEORGE HENRY, Capt., late R.A.V.C., Granville Lodge, Hinckley, Leicestershire. Graduated London, December, 1901. Died August 4th, 1927. Aged 49.

Army Veterinary Service.

Movements of Officers.

Major J. Harrison was posted from Northern Ireland District to Newport (Mon). for duty on the 1st April, 1927.

Major R. H. Knowles reverted to the British establishment from the Sudan Defence Force on the 1st April, 1927, and is now doing duty at Hounslow.

Major G. Williamson and Major R. M. Bamford, O.B.E., arrived home from India on the 1st and 12th April, 1927, respectively; they were posted to the Aldershot Command for duty.

Lieut. Colonel A. Olver, C.B., C.M.G., F.R.C.V.S., arrived home from Egypt on the 16th April, 1927, and assumed duty as Assistant Director of Veterinary Services, Headquarters, Northern Command, York.

Major G. V. Golding arrived home from Egypt on the 20th April, 1927, and is now doing duty in the Aldershot Command.

Captain G. F. Watkins is now in this country on sick leave from the Rhine.

Major A. Leaning, D.S.O., Major M.P. Walsh and Captain T. F. Arnold, of the Indian Continuous Service Cadre, are at present in this country on leave from India, the two latter on sick leave.

Major S. F. G. Pallin, D.S.O., Captain E. C. Bowes and Captain W. M. Rouse are at present in this country on leave from India, the first-named on sick leave.

Major R. A. Gooderidge, O.B.E., was posted to the Equitation School, Weedon, on the 7th July, 1927, for duty as Veterinary Officer Instructor.

Major J. O. Andrews, D.S.O. was posted to Shorncliffe for duty on the 8th July, 1927.

Captain M. Farrelly has been invalided to this country from the Sudan Defence Force. He was seriously injured as a result of an accident at polo.

Major F. R. Roche-Kelly was posted for duty to Aldershot on the 5th August, 1927.

Personal.

Will.—HOLTHAM, Mr. George (82), of Langham House, Berkeley Street, Gloucester, veterinary surgeon (net personalty £12,642) **£35,034**

Government Employment of Local Officials.

A a recent meeting of the Diseases of Animals Sub-Committee of the Essex Agricultural Committee, the question of the employment by the Ministry of Agriculture of the veterinary inspectors of the Sub-Committee again arose. The Clerk said that two meetings ago they decided to refer this matter to the County Councils Association, who had considered it, and a reply had been received to the effect that in their opinion the services of whole-time officers in cases where no material interference with local administration was likely to be caused should be placed without charge at the disposal of the Ministry for the purpose of rendering assistance in the tracing of foot-and-mouth disease. Where the services of part-time officers were utilised, then the fees paid by the local authority should be repaid by the Ministry.

The Chairman said this was the opinion of the Committee.

It was decided to send a copy of this communication to the Ministry.

At the same meeting it was reported that for the quarter ended June 30th, under the Tuberculosis Order, 1925, 249 animals were slaughtered, and the total amount of compensation paid was £1,301 2s. 6d. After certain refunds, the nett cost to the county would be £95 18s. 2d.

Fertile Sires.

The Dairy Shorthorn Association is to be asked to consider the imposition of a rule that all show bulls of appropriate age be required to have sired calves within a certain period of exhibition in order to be eligible for an award. The question has often been discussed, but this is probably the first time it has been brought into the sphere of general debate. There can be no reasonable hardship in the demand that bulls should have been proved fertile. The classes will not suffer any appreciable injury from a condition of the kind. After all, the first essential of a bull is that he shall propagate his species; the quality of the offspring he begets is another matter, and into it the breed society will hesitate to inquire. Individual owners, however, watch closely the class of calves a bull leaves, and they form their verdict concerning him largely in accordance with the manner in which he fulfils his first duty.—*The Times.*

The horse constitutes the only motive power used in delivering house-to-house milk in Greater New York. Why? Because the delivery of $1,000,000 worth of milk by team and wagon, instead of by electric truck, saves $42,000; the delivery of $1,000,000 worth of milk by one-horse wagon instead of electric truck saves $102,000. A few electric trucks and gasoline trucks are being used on scattered delivery routes in suburbs, but on retail routes in the city the horse constitutes the only milk delivery equipment.—*Horse Association of America.*

Condensed Milk.

The Minister of Health is about to make Regulations amending the Public Health (Condensed Milk) Regulations, 1923 so far as they relate to the labelling of condensed milk. The Regulations will come into operation on the 1st April, 1928, so far as they relate to importation, and in other respects on the 1st July, 1928, and will apply to all condensed milk intended for sale for human consumption in England and Wales.

Copies of the draft Regulations which have been prepared for this purpose can be purchased under the description "Draft, dated 5th August, 1927 of the Public Health (Condensed Milk) Amendment Regulations, 1927," from H.M. Stationery Office, Adastral House, Kingsway, W.C.2, either directly or through any bookseller (price 1d.). Any representations on the subject should be addressed to the Secretary to the Ministry at an early date.

Criticism of Humane Killer.

Mr. C. Hall, Chief Sanitary Inspector to Portsmouth City Council, expressed the opinion in Portsmouth Police Court on Friday of last week, that the humane killer was a dangerous instrument to those who used it. He had known of several accidents through the use of the instrument. Mr. Hall gave this evidence in a case in which an Eastney butcher, Charles Jeram, was summoned for slaughtering pigs otherwise than by a humane killer, as directed by the corporation by-laws. Jeram said that he refused to endanger his life with a gun. The Bench fined him 1s., the Chairman remarking that a humane killer, while humane to animals, might be inhumane to human beings. Summoned for aiding and abetting, Jeram's son, Frank, was similarly dealt with.

Medal for Agricultural Research.

A silver medal is being offered by the Royal Agricultural Society for a monograph or essay giving evidence of original research on any agricultural subject, on any of the cognate agricultural sciences, or on agricultural economics. Candidates for the medal must reside in Great Britain or Ireland and must not be more than 30 years of age on September 29th, 1927, and the monograph or essay must be forwarded to the Secretary of the Royal Agricultural Society on or before October 31st.

A new cattle disease has been discovered at Halling Alen (Norway), attacking both the hooves and mouths of the animals. Local veterinary surgeons state that the ailment is distinct from foot-and-mouth disease. , It is said to resemble eczema in the primary stages, and causes great pain.—Exchange.

" In judging dairy cows it has been the custom to pay considerable attention to points in the conformation that have no bearing whatsoever on milk production, such as small horns, straight back, good looking head, and well balanced udder. The main factors which have a bearing on capacity to produce milk were overlooked and as a consequence many a blue ribbon was pinned to a " boarder.' As previously mentioned in this publication, the federal bureau of dairying has been endeavouring to change this custom bv drawing attention to the importance of paying more attention to the factors that have a significant meaning. In short, body capacity, mammary development plus the proper dairy temperament, is the combination which the bureau of dairying points out as predominant over the fancy points which have heretofore ruled in the show ring."—*North American Veterinarian.*

CORRESPONDENCE.

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

The Royal Commission on Agriculture in India.

To the Editor of The Veterinary Record.

Sir,—In the issue of the *Veterinary Record* of 30th July, 1927, there appears a garbled criticism of statements which I am alleged to have made in the course of my evidence before the Royal Commission on Agriculture in India. I " strongly urged " decentralisation of research and *inter alia* said " it is not possible for adequate research to be carried out at one centre in a country such as India. Apparently it is not possible in any other country . . . there must be a number of provincial research stations . . . . "

Professor Gaiger may rest assured that my views coincide entirely with those which he has expressed at some length in your columns. So certain was I that these views would support my plea for decentralisation that I also " strongly urged " the Commission to take evidence from him. This, I am pleased to see, they have apparently done.—Yours obediently, J. Basil Buxton.

Institute of Animal Pathology, Field Laboratories, Milton Road, Cambridge.

August 5th, 1927.

To the Editor of The Veterinary Record.

Sir,—As one who has recently returned from India on leave I should like to be allowed to support the plea of Colonel Walker in your issue of August 6th, for abstention from the publication in the press of divergent views regarding the needs of the Indian Veterinary Service.

The Service will, of course, feel greatly indebted to all those gentlemen who show an interest in its welfare, but it is probably correct to say that in the past no body of men has suffered more through the divergent views held in regard to it than has the Indian Veterinary Service. It has to be admitted that much difference of opinion was previously found even amongst the members themselves and there is no doubt that the absence of a leader has been to a great extent the cause of this. It is therefore pleasing to be able to state that, mainly owing to the efforts of the officials of the Indian Veterinary Service Association, a great measure of unanimity has now been reached, and I understand that the evidence tendered by the members of the service in India to the Royal Commission now sitting has been very uniform, particularly in regard to the necessity for the appointment of a Veterinary Adviser with the Government of India.

This is the crux of the whole matter, for in whichever way an advance is desired, one is baulked by the lack of such an officer.—I am, Sir, Yours faithfully, F. Ware.

London,

7th August, 1927.

The Editor acknowledges the receipt of the following :—

Report of a meeting of the Lancashire Division, from Mr. J. Spruell, Hon. Secretary. Annual report of the Veterinary Department of the City of Edinburgh for the year 1926. Royal (Dick) Veterinary College Calendar, 1927—28.

Report of the Chief Veterinary Officer of the City of Liverpool on the work of the Veterinary Department for the year 1926.

Communications from Mr. R. L. Higgins, Captain H. A. Idenden, Mr. J. R. Pratt and Lieut.-Col. T. Dunlop Young.